UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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BOSTON, MASSACHUSETTS 02114-2023

September 14, 2001

Daniel J. Berman, Assistant Division Administrator
Federal Highway Administration
380 Westminster Mall
Providence, Rhode Island 02903

RE: Draft Environmental Impact Statement Sakonnet River Bridge Rehabilitation or Replacement, Portsmouth & Tiverton, Newport County, Rhode Island

Dear Mr. Berman:

The Environmental Protection Agency-New England Region (EPA) has reviewed the Federal Highway Administration's (FHWA)/Rhode Island Department of Transportation's (RIDOT) Draft Environmental Impact Statement (DEIS) for the consideration of various alternatives to rehabilitate or replace the Sakonnet River Bridge between Portsmouth and Tiverton, Rhode Island. We submit the following comments in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

The Sakonnet River Bridge carries Route 24 over the Sakonnet River, a tidal river, between Aquidneck Island (Portsmouth) and the Rhode Island mainland (Tiverton). Traffic counts from 1998/1999 indicate that the bridge carries about 20,000 vehicles in each direction on an average day (40,000 average daily trips total) and that it carries the highest traffic volume of the three bridges that connect to Aquidneck Island. The DEIS, and information presented during a project scoping meeting EPA attended on October 6, 1999, fully document significant structural deficiencies in critical concrete and steel components of the existing bridge. According to the analysis, the extensive nature of the rehabilitation measures required to address existing structural and design problems led RIDOT to seriously consider, and ultimately prefer, bridge replacement alternatives. Although the underlying purpose of the project is to eliminate safety problems related to the poor condition of the bridge, project alternatives were also evaluated based on the following objectives:

- the ability to maintain four lanes of traffic on Route 24 to the greatest extent possible during construction
- avoidance of right-of-way impacts by minimizing construction outside the Route 24 alignment and bridge abutments
- the ability of the structure to maintain the existing clearance above the river channel and maximize the width of the channel

The DEIS identifies construction of a new bridge to the south of the existing bridge (Alternative 5) as the preferred alternative. Under this scenario the existing bridge would continue to be used during construction and traffic disruptions are predicted to be minimal. Eight property relocations would be required to construct Alternative 5.

EPA's November 1999 scoping comments requested a complete investigation of project alternatives, impacts to wetlands, water and air quality and a discussion of project phasing as a means to reduce impacts during construction. Although the DEIS provides a good explanation of many of the impacts associated with the various alternatives, it is incomplete in other respects. In particular, we believe additional information should be provided to adequately address a number of outstanding wetland, water and air quality, fisheries and marine/navigation issues.

Water Quality

The preferred alternative incorporates an open storm water drainage system similar to the storm water drainage of the existing bridge. According to the DEIS, the existing bridge has an open trough system that channels runoff through down spouts directly to the Sakonnet River. The DEIS also indicates that, according to the RIDEM, the existing storm water loadings do not affect the water quality of the Sakonnet River and it concludes that the proposed design of the new bridge will maintain existing loadings. Nonetheless, EPA believes that the construction of a new bridge and access ramps provides a unique opportunity for more sophisticated storm water management techniques. Further, EPA notes that under draft proposed changes to the Rhode Island Pollutant Discharge Elimination Regulations (RIPDES), storm water discharges associated with the construction and subsequent operation of the proposed bridge will likely require a storm water discharge permit. For this reason, EPA recommends that the DEIS be expanded to evaluate an appropriate range of potential storm water control measures that focus on techniques to eliminate or reduce the direct discharge of untreated storm water directly to the river.

Air Quality

<u>Emissions from Diesel Construction Equipment</u>

During the construction phase of the project, emissions from construction equipment may contribute to air quality problems in surrounding areas. This is particularly true of diesel-powered equipment which can contribute high levels of particulate matter (PM) emissions. In 1998, EPA adopted new emission standards for diesel engines used in a wide range of nonroad construction applications. Standards for hydrocarbons, oxides of nitrogen (NOx), carbon monoxide, and PM will be implemented in two tiers over ten years (1999-2008), with different standards and start years for various engine power ratings. The new standards will reduce emissions from a typical non-road diesel engine by up to two-thirds from the levels of previous standards. By meeting these standards, manufacturers of new non-road engines and equipment will achieve large reductions in the emissions (especially NOx and PM) that cause air pollution problems in many parts of the country. However, it will be a number of years before the newer, cleaner construction equipment is in widespread use, and until then there will be many older

pieces of diesel-powered construction equipment that will emit high levels of particulate matter and other pollutants.

The emissions from older diesels engines can, however, be controlled with retrofit pollution control equipment. Retrofit control equipment includes either oxidation catalysts or particulate filters installed on the exhaust of the diesel engine. This control equipment is designed to reduce particulate matter, hydrocarbons, and carbon monoxide emissions and has proven to be a cost effective way to reduce these emissions. Retrofits have been successfully applied to many diesel engines across the country and oxidation catalyst technology has been successfully applied to construction equipment used on the Central Artery/Third Harbor Tunnel project in Boston. Based on this success, some New England States (e.g., MA and CT) have instituted initiatives that will require construction equipment to be retrofitted with retrofit control devices or use clean fuels.

There are many mechanisms to encourage the use of these controls, such as through contract specifications or other means. In addition, there are also many ways to secure funding for diesel retrofits, such as by acquiring federal highway money under the Congestion Mitigation and Air Quality Program (CMAQ)or through EPA grant mechanisms. Therefore, EPA strongly advocates and is willing to assist RIDOT in achieving retrofits on the construction equipment for this project.

CO Estimates

A detailed carbon monoxide (CO) hotspot analysis was presented in section 4.7 of the DEIS that analyzes the proposed toll plaza and two intersections in the project area. However, the analysis shows many seemingly low eight hour values ranging between 2.0 and 3.4 parts per million (ppm) in 2005 and 2020. It appears that the eight hour values were calculated incorrectly as the background value of 3.0 was added to the monitored value before multiplying by the persistence factor, thereby lowering the modeled eight hour CO estimates. A revised analysis should be performed and presented in the Final Environmental Impact Statement (FEIS). While correctly modeling the eight hour values would generate values significantly higher than those contained in the DEIS, we expect that the values would still be below the CO national ambient air quality standard of 9 ppm.

Commuter Rail Service

The State of Rhode Island is considering the development of commuter rail service close to this project, and the reconstruction of the currently defunct railroad bridge near the Sakonnet River Bridge is being discussed. Furthermore, the DEIS makes it very clear that the Sakonnet bridge project will be designed so that it will not preclude the development of future of commuter rail in the area. EPA commends the RIDOT for making this consideration a part of the design process for the new bridge over the Sakonnet.

Wetland Impacts

According to the DEIS, construction of the preferred alternative would affect between 1,500 and 2,900 square feet of wetland and 22,500 to 23,500 square feet of river bottom (depending on the span length and pier configuration selected for the new structure) while construction of the toll plaza could potentially affect 38,100 square feet of wetlands near the bridge. Unfortunately, the analysis lacks a discussion of methods that will be implemented to minimize impacts during construction and any comprehensive discussion of possible mitigation strategies for wetland impacts associated with the project. To correct this deficiency, the FEIS should contain a discussion of the impacts associated with construction work necessary to remove the existing bridge and pilings, to construct the new bridge infrastructure, and a plan to mitigate for temporary and permanent wetland and waterway impacts. The analysis should also detail how the existing bridge and the railroad trestle will be dismantled and where they will be disposed. Moreover, the discussion should be integrated with an analysis of impacts to fisheries and water quality and should evaluate whether time-of-year restrictions are necessary to further minimize impacts.

Finally, the FEIS should contain a complete analysis of alternative locations for the proposed toll plaza. Based on the information presented in the DEIS it appears that the proposed Portsmouth toll plaza location has the largest potential for wetland impacts when compared to other locations or on-bridge options available. The FEIS should more fully explain how the toll plaza location described in the EIS would be consistent with the Clean Water Act 404 (b)(1) guidelines.

Removal of the Abandoned Railroad Causeway

Volume II of the DEIS provides specific information about the likely significant impacts to fisheries and navigation due to removal of the abandoned railroad causeway to the north of the Sakonnet River bridge. By some reports cited in this study, this area is one of best, if not the best location in RI for tautog fishing. Moreover, the Fish Resources Study in Volume II explains that the removal of the abandoned railroad bridge and its causeway would "very likely reduce or eliminate the recreational tautog fishery at that location." It is our impression that this potential fishery impact in combination with negative impacts to recreational navigation due to increased exposure to wind and fetch provides a strong basis to avoid removal of the causeway. Unfortunately, it is not clear from the analysis whether or not removal of the causeway is proposed for any or all of the build alternatives under consideration. FEIS should explain whether or not the causeway will be removed under any build scenario, and if so, how the likely significant impacts of that work will be addressed.

Conclusion/Rating

The design and selection of an environmentally and socially acceptable project will depend on continued efforts by the RIDOT/FHWA to eliminate and minimize direct and secondary impacts and to fully involve the local community in the decision making process that will follow receipt of comments on the DEIS. RIDOT has demonstrated a willingness to seek input on the project up to this point and it is our impression that continued coordination should result in a viable project. In accordance with our

national system, we rate this project as EC-2 ("Environmental Concerns-Insufficient Information"); please see the attached sheet for an explanation of this rating. We look forward to reviewing the information we requested in this letter and hope that RIDOT/FHWA continues to work to develop an environmentally and socially acceptable solution. Please contact Timothy Timmermann of EPA's Office of Environmental Review at 617/918-1025 with any questions you may have about our comments on the DEIS or if you would like to meet with us to discuss our comments and concerns in greater detail.

Sincerely,

Robert W. Varney
Regional Administrator

attachment
cc:

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Jan Reitsma, Commissioner, RIDEM